Subject: Ops TIM
Date: **December 16, 2003**
Location: GSFC **Room E280, Bldg 14**
Dial in info: Number: **866-836-1481**
Passcode: **205535**

Attendees – Mike Rackley, Howard Dew, Bruce Wagner, Doug Speigel, Ernest Canevari, Ross Cox, Dave Lung, Lori Bator, Mark Woodard, Jonathan DeGumbia, John Nagy, Mark Davis, Dennis Small, Eric Andrews, John Teter, David Band, Robin Corbet,

8:55 am – Mike reviewed the agenda and the times that participants were available throughout the day.

Agenda topics:

- Hiatus period SCIF testing – Mike 9:12
  - Slides were updated from the last Ops TIM and subsequent conversations with Spectrum.
  - The LAT instrument arrival will be no earlier than December 2005.
  - The GBM instrument arrival is expected to be August 2005.
  - Since the GBM instrument will not be arriving in the middle of the hiatus period, Project may request GBM to arrive just prior to the LAT instrument arrival.
  - If the Hiatus period is less than 2 months, GS/Ops will not have sufficient time to do testing.
  - The Project may want to delay the delivery of the LAT instrument simulator until after the instrument delivery. Being able to run the LAT FSW on the MTS would be a suitable alternative for the MOC needs of mitigating the risk of not having the LAT ISIS.

  ****Could Code 582 take the LAT FSW and create a simulator?**

  **Eric – with Dave/JJ/Eliot will look into when the LAT FSW would be available for GS/Ops to use.

  Reviewed Mike slides -
  - Use of HotBench will require a Spectrum person to "babysit" during testing. Remote access will not be necessary if Spectrum "babysitting".
  - HotBench configuration and T&C database will have to be "locked down" prior to a test.

**Mark thinks Spectrum will provide HotBench training.
**Howard to work with Mark and Spectrum network guru to develop network topology with associated security.

**determine security issues connecting Spectrum and MOC.whether MOC workstations at Spectrum will be behind a firewall and how accessible they will be to the MOC.
**Howard and Mark - How will MOC get Ku Band data from Spectrum? Want to have a GFEP at Spectrum. Can MOC access the GFEP?
- There will be no impact to LAT to schedule SCIF testing as Dave and Lori considered part of LAT I&T team.
- Mark Davis' involvement would be significant for supporting MOR similar to Lisa's involvement with Swift.
- Bus related PROC development … becomes too much for Omitron to support.

- Ground Readiness Tests – Ernest **(Not discussed)**
  - Review and add more detail where we can
  - Documented in draft GS Test Plan

- TDRSS and Ground Stations – Mark W. and Howard 10:06 am
  - Trade Study - Howard
    - Reviewed Howard slides
    - USN - No issues with using USN
    - MILA - Issues with using MILA include: a) There is no access during shuttle activities and b) the issue of using asynchronous marker (ASM) being included in spacecraft data stream. Upgrading MILA will take 10 months and has yet to start.

    ****
    ** Bruce to update GRT objectives so that MILA and Wallops are included in GRT3 and USN in GRT5.
    ****

    - Wallops – Same issues as MILA with the exception of not having access during shuttle activities.
    - DSN – not an option.
  - View profiles – Mark W.
    - Reviewed handouts.
    - Yaw flip will occur twice per orbit to maintain x-axis to sun.

- Rocking as fast as possible to 35 degree. Approximately 8 minutes to go from +35 degrees to –35 degrees.
- May be 15 minute limit on Ku-Band antenna (a thermal limitation). Once per orbit. A CCR needs to be address this in the MSS.
****What would be our transmitting constraints?**

- How they plan to be used
  - TDRS Ku vs TDRS S-Band vs GS S-Band
    - Gimble information used is 220 degree view angle.
    **Mark Davis will investigate how many TDRSSs can be stored on board the spacecraft.
    - Added primary line from FDF to FDS for TDRSS events. Mark W. will update diagram to incorporate these changes.
    - Baseline: Will do 2 DOWDs per day with 2 different TDRSSs.

- LAT Data Rate Increase Implications – Howard **(Not Discussed)**
  - Implications to ground system and operations

- Network Architecture/Concepts/Status – Howard 4:50 p.m.
  - May end up with multiple FEPs.

- Simulators (MTS and CTS) – JD **(Not Discussed)**
  - Need dates
  - Uses
  - Instrument simulator requirements/needs (high level)

- Ground System/Ops Schedule Review – Mike 3:47 p.m.
  - Review of proposed changes to GS/Ops schedule to reflect the Feb '07 launch date
    - Noted the highlights of the events that have moved.
    - Currently the LAT Ops and the LAT Science Peer Reviews are combined. Peter has action to decouple these.
    - Assume that CDRL 5 will move.

- Planning/commanding – John and David B. 11:20 a.m.
  - Walk through of the planning/commanding process
  - John drew a diagram of the process on the white board.

- Discussed what LAT is providing to GSSC including command activity vs mnemonic with any associated timing for the command being issued.
- Files that need to go to the LAT instrument will be sent by the LAT ISOC. These files will first be stored in a temporary buffer and then will be stored in an active buffer.
- Ernest started a new diagram and erased John's diagram.

File load Case –

- LISOC will send GSSC – Activity with time (e.g. – "Load SIUFILE") would have parameters file (LATSIU) with description & file size, time condition hh:mm:ss, nlt, …), criticality flag (e.g. routine, critical).
- GSSC will evaluate the following:
  - Load SIUFILE – machine evaluated
  - Time condition – machine evaluated
  - Flag – machine evaluated
  - Description – person evaluated.
- GSSC output – Activity, requested time
- MOC will schedule TDRSS contact, will send R/T execute **LOAD LAT PROC.**

The MOC will also do the following:

- Will send back confirmation report via person.
- Will send (via machine) the As-Flown Timeline which is a telemetry level Observation level (e.g. states) timeline.

ATS Load case:

- LAT ISOC will send "activate SIULOAD" with parameters: filename
- GSSC will assign ATS time.
- MOC will build ATS
- MOC will send Integrated Observatory Timeline (command level including ATSs) back

- Role of GSSC in factoring in TDRSS views
- Effect of Autonomous repointing on schedule
- Role of GSSC for instrument memory loads (vs cmds)
  - How does GSSC get insight into what instruments are doing
  - How much is really needed?
- GSSC role in LEO vs Phase 1 vs Phase 2
- Everyone using ITOS-compatible load formats
- Goal is to help us mature the Ops Data Products ICD.

- As-Flown Timeline – John **(Not Discussed)**

- Ops Readiness Approach – JD **(Not Discussed)**
  - Review concept for proc development
  - Review Ops Procedures template

- T&C Database – Mike **(Not Discussed)**
  - Validation approach – make sure we understand what we think we've agreed to and what remains to be defined
  - DFCD status

- Autorepoint request
  - Looking for LAT to send down data in burst alert telemetry (in 3rd packet) to indicate the spacecraft is auto-repointing. Spectrum will supply LAT with confirmation that repoint request has been accepted.
  - Operationally, the data from knowing a burst message has been received and a TDRSS pass was missed is sufficient to know the spacecraft repointed.
  **Eric Andrews/David Band – Request that Burst alert packet contains the bus acknowledgement that repoint has been accepted.

- LEO timeline stuff –
  - Define roles/titles/responsibilities

- Eric – With GBM and LAT having different timing in secondary header is there any user that needs to interpret the data.
  - LAT burst processing in the GBM BAP would require the LAT time to stamp GCN notice.